

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-16 and 18-24 are presently active in this case. The present Amendment amends Claims 1 and 6, and cancels Claim 17.

Claims 1-2 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Havard et al. (U.S. Patent No. 5,483,034) in view of Banas et al. (U.S. Patent No. 4,691,093). Claims 3-4 and 6-24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Havard et al. and Banas et al. and further in view of Altenburg et al. (DE 195-21-892).

Claim 1 previously recited that *each of the two welding axes is tangent to one of the surfaces of the plate forming the stem of the T*. Clearly, this limitation required two welding axes tangent to a surface of the stem plate. In light of the repeated rejection from the previous Office Action and Applicant's believe that this limitation distinguishes over the applied prior art, Claim 1 is slightly amended in an effort to clarify this limitation. Amended Claim 1 recites that a first axis of the two welding axes is tangent to a first surface of the parallel surfaces of the stem plate and a second axis of the two welding axes is tangent to a second surface of the parallel surfaces of the stem plate. This amendment does not change the scope of Claim 1 to the extent that Claim 1 still requires two welding axes *tangent to a surface of the stem plate*. In light of the formal nature of this change and its clear support in the disclosure as originally filed, for example in the drawings, this change is not believed to raise a question of new matter.<sup>1</sup> Further, independent Claim 6 is amended to incorporate the features of previously examined dependent Claim 17 to specify that the directing step is performed so that the *first beam is tangent to the first surface* of a part and the *second beam*

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<sup>1</sup> See MPEP 2163.06 stating that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

*is tangent to the second surface* of the part. Therefore, this change is not believed to raise a question of new matter.

In response to the rejections of the claims under 35 U.S.C. §103(a), Applicant respectfully requests reconsideration of these rejections and traverses the rejections for the same reasons previously presented in the Amendment filed August 3, 2005, which are hereby incorporated by reference, as well as the following additional reasons.

As noted above, both independent Claims 1 and 6 require that the two welding axes be tangent to a surface of the stem plate. Nothing in the prior art, including the Havard et al., Banas et al., and Altenburg et al. patents suggests directing a first beam to be tangent to a first surface of a part and simultaneously directing a second beam to be tangent to a second surface of the part.

The outstanding Office Action states that “Examination of the [Banas et al.] figures shows that the weld axes are tangent to one of the welded surfaces. (abstract, figures, col. 2).”<sup>2</sup> Applicants respectfully disagree. The Banas et al. patent discloses two sub-beams “*focused* on surfaces 36 and 38 at weld seam 40 formed by abutting workpieces 42 and 44. The sub-beams form spots 46 and 48 separated by a distance (D). The sub-beams are guided along the weld seam to perform the weld by conventional optical apparatus or, conversely, by movement of the respective workpieces.”<sup>3</sup> The Banas et al. patent discloses two welding techniques: (1) a “transverse welding technique” where the two laser spots are separated by the weld seam 40, as shown in Fig. 1, and (2) a “trailing pool” technique, where “the sub-beam focal spots lie on the weld seam and move therealong.”<sup>4</sup> In both techniques, the laser is *focused on the plates at some angle*, presumably between about 60° and 90°. In neither techniques are the laser beams directed to be tangent to a surface of the plate. Therefore, the

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<sup>2</sup> Outstanding Office Action, page 2, lines 2-3 from the bottom.

<sup>3</sup> The Banas et al. patent, column 3, lines 48-54, describing Fig. 1.

<sup>4</sup> The Banas et al. patent, column 4, lines 46-54.

Banas et al. patent does not teach or suggest directing the two laser beams so as to be tangent to faces being welded. Thus, even if the combination of the Havard et al. and Banas et al. patents is assumed to be proper, the combination fails to teach or suggest every element of the claimed invention. Specifically, the combination fails to teach the claimed laser welding step used to make two welds at the same time such that a first axis of the two welding axes is tangent to a first surface of the parallel surfaces of a stem plate and a second axis of the two welding axes is tangent to a second surface of the parallel surfaces of the stem plate, as recited in Claim 1.

Further, in order to arrive at Applicant's invention, a person of ordinary skill in the art would have to disregard the explicit teachings of the Havard et al. patent that the two laser axes should be inclined with respect to one another and intersect so as to form an X with a center placed in the upper part of the plate 1 and so that the laser beams traverse the plate 1 and reach the two corners 2C.<sup>5</sup> In particular, the Havard et al. patent explicitly states that "*as a result of two X-inclined welds, there is an overall welding of the extrados plate 1 to the partition 2.*"<sup>6</sup> The Havard et al. patent further emphasizes the benefits of the X configuration by pointing to the production of "a metallic continuity over the entire length of the partition 2 of the connecting fillet 9 obtained in the corners 2C formed in the parts."<sup>7</sup> The intersecting of the laser beams to form an X is a central feature of the Havard et al. method and is described in the abstract, the summary of the invention, the detailed description sections and in the independent claim. Eliminating this X configuration would thus change the basic principle of operation of the Havard et al. method. In the context of the Havard et al. method, such a modification would not be "merely a variation of the welding parameters."<sup>8</sup> There is no evidence that a person of ordinary skill in the art would be motivated to perform such

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<sup>5</sup> The Havard et al. patent at column 3, lines 9-16.

<sup>6</sup> The Havard et al. patent at column 3, lines 23-25.

<sup>7</sup> The Havard et al. patent at column 3, lines 30-34.

<sup>8</sup> Outstanding Office Action, page 3, lines 1-2.

changes and redesign of the Havard et al. method. Accordingly, Applicant respectfully traverses, and requests reconsideration of, the rejections of the claims based on these patents.<sup>9</sup>

The position that the Havard et al. method *can* be modified to arrive at the claimed method is insufficient to establish a *prima facie* case of obviousness.<sup>10</sup> Absent improper hindsight reconstruction,<sup>11</sup> a person of ordinary skill in the art would not be motivated to perform such a modification, and Claims 1-16-18-24 are believed to be non-obvious and patentable over the applied prior art.

The present amendment is submitted in accordance with the provisions of 37 C.F.R. § 1.116, which after Final Rejection permits entry of amendments placing the claims in better form for consideration on appeal. As the present amendment incorporates the features of dependent Claim 17 into Claim 6, the present amendment reduces the number of issues for consideration on appeal. Further, the present amendment is not believed to raise new issues because the changes to Claim 1 are formal in nature and merely restate differently what was already stated in Claim 1. It is therefore respectfully requested that 37 C.F.R. § 1.116 be liberally construed, and that the present amendment be entered.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-16 and 18-24 is earnestly solicited.

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<sup>9</sup> See In re Ratti, 270 F.2d 810, 813, 123 USPQ 349, 352 (reversing an obviousness rejection where the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate.")

<sup>10</sup> See MPEP 2143.01 stating that the "fact that references can be combined or modified is not sufficient to establish *prima facie* obviousness"; see also same section stating "[a]lthough a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so,'" (citation omitted).

<sup>11</sup> See MPEP 2141, stating, as one of the tenets of patent law applying to 35 USC 103, that "[t]he references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention."

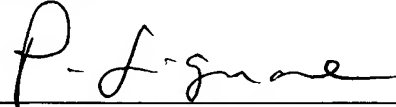
Application No. 10/694,853

Reply to Office Action of October 19, 2005

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

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